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HUDSON BAY BUTTERFLIES AND A NEW TRANSITION FORM (LEPID.).

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The year of 1932 gave me the much desired opportunity of visiting that vast territory of northern Manitoba which stretches between my home town of McCreary and the terminal of the Hudson Bay Railroad at Fort Churchill on Hudson Bay. Leaving June 1st the first stop for exploration was at The Pas some 400 miles northward. The scenery en route was mostly prairie with some mixed woods, though the last 50 miles showed more muskeg and swamp spruce. The Pas is a small frontier settlement of about 3000 inhabitants and many trappers still make this place their summer headquarters before proceeding north for winter operations. In Lepidoptera, the butterfly *Brenthis freija* was flying in considerable numbers and I also took *Brenthis dawsoni* in the spruce swamps. Two collecting days were spent at The Pas.

My next stop was at Wabowden, a small Indian village nestled among numerous lakes and rocky situations. Collecting was better here than at The Pas and I was fortunate to have a few warm, clear days; however, it was a little early in the year for everything to be out in quantity. A few *Brenthis saga* were taken and *Brenthis tricularis* (near it) were just coming out.

Leaving this little railroad point and continuing northward, the train crosses the Nelson River at Kettle Rapids, a very inviting looking spot, though I did not stop over. From here on the trees get smaller and shorter, also farther apart, and the majority of them seem killed by prairie fires, possibly started by the railroad. Arriving at Herchmer about 5 o'clock in the afternoon, I lost no time in swinging the net, as the weather was good and of course the days are long. Most of the collecting was done along the Owl River and the best spot seemed on a gravel ridge east of the railroad. *Frigga* was common

and I also took *Eurymus palæno chippewa* and what I think is *Eurymus gigantea*. I worked this region over until June 30th and then decided to move on to Fort Churchill. Between there and Hudson Bay there are about 35 miles of the first moss barrens and then the railway runs through the thick tamarac swamps along the Churchill River. This tamarac is amazingly thick and extends to within five miles of Churchill where the real Arctic Barrens begin.

Churchill is the farthest north deep seaport on the American continent, being well situated at the mouth of the Churchill River which makes a natural opening and protected harbor into Hudson Bay. A feature of the town is the giant grain elevator which can be seen for miles around. My real reason for coming to Churchill was to locate and collect that rare *Colias* butterfly *Eurymus nastes moinna* Stkr. at its type locality. This is the butterfly which the late Dr. Wm. Barnes of Decatur, Ill., wished to obtain, but was evidently unable to. After tramping around for several days I eventually found a colony of them about 4 miles southeast of the elevator along the coast on a few acres of level ground among the rocks. And was I happy! Like most *Colias* these butterflies like warm, sunny days and I was favored with quite a streak of good weather during my three weeks' stay at Churchill. Mosquitoes are bad, of course, as is a species of small, black fly and the face and hands must be protected at all times. Along with *moinna*, I took *Plebius aquilo*. A few *Eurymus hecla glacialis* were also caught though they are very swift fliers and not local in habits like *moinna*. *Erebia disa* and *rossi* were in fair numbers and also several *Oeneis*. I took a few specimens of *Papilio machaon hudsonianus* during my stay; this is a new *Papilio* described by A. H. Clark, the Echinodermist of Washington, D. C., and evidently approved by F. H. Benjamin. The best region for butterflies around Churchill was along the rocks near the Bay, though I also collected up the Churchill River a distance. The weather gets fairly warm towards the middle of the day and as the days are about 20 hours long, one has plenty of time comparatively. It is estimated that there are over 100 varieties of wild flowers in the immediate district and an equal number of migratory birds which nest there.

I left Churchill on July 22nd for the return journey home

and considered that I had done well in Lepidoptera, having taken about 15 species which included several *Sphingidæ* and *Apantesis*. The return trip took three days, not long considering the distance. The item of rail fare is the principal cost on an expedition into the Bay region. The Canadian National gladly furnishes estimates to anyone interested, so I am told.

I take this opportunity of describing a new tr. f. as follows:

Brenthis freija gunderi Harper, new tr. f.

Upper side: Primaries heavily black suffused through discal area with cell spots much enlarged and spots through base flattened to fill interspaces. Secondaries having the marginal row of black spots fused outwardly and joining the lunate row. Discal and basal areas black as in typicals. *Under side:* Black maculation of upper sides repeated as on under sides of primaries; secondaries showing duplicate tendencies of suffusion as indicated on upper surfaces. This transition form representing the type for melanifusism is only a partial development, but is recorded as an example of change of pattern.. The name *freija* Thun. properly represents a European habitat; perhaps the name *tarquinius* Curt. really represents the Canadian group, though those Labrador examples are said to vary as well.

Holotype male, McCreary, Manitoba, Canada. May 22nd, 1932. Expanse of type 37mm. Collected by myself and type deposited in the Calif. Academy of Sciences at San Francisco, Calif. as an "indefinite loan" for safe keeping. It is named after Mr. J. D. Gunder of Pasadena, Calif.

A NEW RECORD OF ARIZONA HEMIPTERA

Margus repletus Van D. known from the type taken by Mr. Fordyce Grinnell in Palm Canyon, San Jacinto Mountains, California, and two specimens taken by L. L. Muchmore in Los Angeles county and Whittier, California, all in the California Academy of Sciences. A specimen has recently been received through the courtesy of Mr. A. H. Caldwell which bears the following label, "Maricopa County, Ariz., May 15, '27, J. H. O'Dell Collector."